Q.19 Discuss how DNA barcoding is used to enhance food safety and traceability.

Q.20 Interpret the principles behind High-Pressure Processing (HPP) and its benefits in food preservation.

Q.21 How is nanotechnology applied to improve nutrient delivery and packaging materials in the food sector?

Q.22 Differentiate between single-cell protein and traditional protein sources in terms of production and nutritional value.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the role of genetic engineering in developing sustainable agricultural practices.

Q.24 Explain the applications of Ultrasound Technology in emulsification and extraction in food processing.

Q.25 Explain the importance of innovation in the food industry and how it impacts consumer choices.

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5th Sem / Food Technology

Subject : Advances in Food Technology

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Which of the following is a recent advancement in food technology?

a) Fermentation b) Pasteurization

c) 3D Food printing d) Smoking

Q.2 Which of the following is NOT a focus area in recent food technology advancement?

a) Sustainable packaging

b) Enhanced nutrient delivery

c) Chemical food contamination

d) Food waste reduction

Q.3 Which of the following is used in the inactivation of microorganisms during microwave processing?

a) Low-frequency sound waves

b) High-energy microwave radiation

c) High electrical resistance

d) Chemical additives

Q.4 Which of the following technologies is commonly applied in food packaging and safety?

a) Ultrasound technology
b) Nanotechnology
c) Ohmic heating
d) Cold plasma

Q.5 High-pressure Homogenization (HPH) is commonly used to:

a) Break down fat globules in milk for uniform texture
b) Freeze food products
c) Sterilize food packaging
d) Extend the shelf life of bakery products

Q.6 Which technology is considered an alternative to traditional thermal pasteurization for liquid foods?

a) Microwave processing
b) Pulsed Electric Fields (PEF)
c) Ohmic heating
d) Cold plasma treatment

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Tofu is made from soy milk and is considered a meat alternative. (True/False)

Q.8 Chia seeds are high in protein but low in omega-3 fatty acids. (True/False)

Q.9 Single-cell protein refers to protein derived from microorganism like bacteria and fungi. (True/False)

Q.10 Artificial Intelligence (AI) can be utilized to predict food quality and safety in processing. (True/False)

Q.11 Bio-sensors and E-sensors are out dated technologies that are rarely used in food safety. (True/False)

Q.12 Biotechnology and genetic engineering have no role in sustainable food production. (True/False)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Summarize the advantages of Ohmic Heating in food processing compared to conventional heating methods.

Q.14 How does microwave Processing enhance the efficiency of cooking and food safety.

Q.15 Give examples of plant-based dairy alternatives and how they compare to traditional dairy products.

Q.16 Differentiate between conventional and sustainable food production methods in terms of environmental impact.

Q.17 Discuss the advancements in food packaging aimed at sustainability and waste and waste reduction.

Q.18 How does biotechnology contribute to sustainable food production and resource management.